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10/735,595	12/12/2003	Raymond C. Kurzweil	14202-005001	1751

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EXAMINER

DUFFY, DAVID W

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3714

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/735,595	Applicant(s) KURZWEIL, RAYMOND C.	
	Examiner DAVID W. DUFFY	Art Unit 3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/05/2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. This office action is in response to the amendment filed 12/05/2007 in which applicant amends claims 1-3, 7, 14-16, and 18-23. Claims 1-23 are pending.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "12b" has been used to designate both a mannequin and a robot. Applicant's amendment to the specification did not address the reference on line 24 of page 6 as filed. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "104" has been used to designate both a glove and a tactile sensor. Applicant's amendment to the specification did not address the reference on line 14 of page 7 as filed. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the

application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. A substitute specification not including the claims is required pursuant to 37 CFR 1.125(a) because applicant has inserted and replaced paragraphs in seemingly improper places making the content of the specification impossible to accurately reference. For example, from applicant's amendments dated 12/05/2007, see items one and two directed to replacing a paragraph on the same line twice and item four which inserts replaces a paragraph not on the page or line referenced by applicant.

A substitute specification must not contain new matter. The substitute specification must be submitted with markings showing all the changes relative to the immediate prior version of the specification of record. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. An accompanying

clean version (without markings) and a statement that the substitute specification contains no new matter must also be supplied. Numbering the paragraphs of the specification of record is not considered a change that must be shown.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claims 1, 12, 14, 18 and 20-23 rejected under 35 U.S.C. 103(a) as being unpatentable over Choy et al. (US 6695770) in view of Yee et al. (US 6016385).
7. In regards to claims 1 and 14, Choy discloses a virtual reality encounter system comprising: a mannequin coupled to a computer system wherein the mannequin is fitted with appropriate sensors that are connected to the computer system to transmit to another location and user device over a network (3:23-25), a headset, to display morphing animations and animated textures on the appropriate avatar (1:63 and 9:65-10:6) and a processor that overlays a virtual environment over one or more portions of the video image to form a virtual scene (8:47-58 and 9:65-10:6). Choy lacks explicitly stating the use of a camera supported by the mannequin.
8. In related prior art, Yee discloses a robot system wherein an operator controls the robot and receives sensory information from the robot, including a pair of cameras corresponding to the remote user's eyes coupled to the robot for receiving a video image where the cameras send the video images via a communication network to the user (5:11-37). One skilled in the art would recognize the advantages of providing video signals to a remote user in order to provide a visual connection for the users.

9. Therefore it would have been obvious to one skilled in the art at the time to combine the camera configuration of Yee with the two person configuration of Choy to provide a more realistic experience to both remote users in a networked environment.

10. In regards to claims 12 and 22, Choy discloses a headset that communicates through a wireless link inherently including a receiver (3:41-46).

11. In regards to claims 18, 20, 21 and 23 Choy discloses that the robot has life-like features, the robot comprising: a body (fig 2). Choy further discloses that the system employs a headset with stereo audio and a wireless connection (3:41-46). Choy lacks disclosing a microphone attached to the robot located in ear canals or cameras located in eye sockets.

12. In related prior art, Yee discloses teaches a robot having life-like features including a body (fig 3), and a microphone coupled to the body, wherein the body includes an ear canal and the microphone is positioned within the ear canal (4:52-5:1) and the body includes an eye socket and the camera is positioned in the eye socket (5:11-37) and the command and sense signals between the robot and the user may be over wireless connection (9:9-11). One skilled in the art would recognize the advantages of replicating human perception for a remote controlled robot.

13. Therefore it would have been obvious to one skilled in the art at the time to combine the virtual reality system of Choy with the teachings of Yee because as Yee suggests, the virtual interface of the robot, camera in eye socket and microphone in ears, is intended to make the robot more friendly in appearance to a second user, and the microphones in the ears add the benefit of being able to relay to the user a sense of

direction of a sound and the cameras in the left and right eye sockets provide the user with information in a three dimensional format similar to how a human would normally view an environment (4:52-5:49).

14. Claims 2-6, 10, 11, 13 and 15-17 rejected under 35 U.S.C. 103(a) as being unpatentable over Choy in view of Yee as applied to claim 1 above, and further in view of Dundon (US 7046151).

15. In regards to claims 2 and 15, Choy discloses wherein the mannequin is a humanoid robot having tactile sensors positioned along the exterior of the robot (2:4-32); the sensors sending tactile signals to a communications network (8:9-15). Choy further discloses wherein the user wears a body suit, but lacks explicitly disclosing that the suit comprises tactile actuators.

16. In related prior art, Dundon discloses an interactive body suit that permits users to interact over a network whereby the garment includes tactile actuators, the tactile actuators receiving tactile signals from the network (abstract). One skilled in the art would recognize the advantages of recreating tactile feelings.

17. Therefore it would have been obvious to one skilled in the art at the time to combine the body suit of Dundon with the system of Choy because, as Dundon suggests (29:36-55), an interactive body suit that covers a user with embedded oscillating motors provides a more realistic and interactive sensory environment when providing force feedback sense of touch.

18. In regards to claims 3 and 16, Choy discloses motion sensors positioned throughout the body suit (5:46-67), the motion sensors sending motion signals

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corresponding to movements of each sensor relative to a reference point 0, the motion signals transmitted to the communications network (5:46-67); and a humanoid robot, receiving, from the communications network, the motion signals from the motion sensors (9:65-10:32), the motion signals from the motion sensors causing a movement of the robot that is correlated to a movement of the body suit (3:11-25, 6:1-49 and 7:20-23).

19. In regards to claims 4 and 17, Choy discloses that the robot includes motion actuators corresponding to the motion sensors, the motion actuators causing the robot to move (7:20-23 and 8:1-15).

20. In regards to claims 5, 6, 10, 11 and 13 Choy discloses that the robot has life-like features, the robot comprising: a body (fig 2). Choy further discloses that the system employs a headset with stereo audio and a wireless connection (3:41-46). Choy lacks disclosing a microphone attached to the robot located in ear canals or cameras located in eye sockets.

21. In related prior art, Yee discloses teaches a robot having life-like features including a body (fig 3), and a microphone coupled to the body, wherein the body includes an ear canal and the microphone is positioned within the ear canal (4:52-5:1) and the body includes an eye socket and the camera is positioned in the eye socket (5:11-37) and the command and sense signals between the robot and the user may be over wireless connection (9:9-11). One skilled in the art would recognize the advantages of replicating human perception for a remote controlled robot.

22. Therefore it would have been obvious to one skilled in the art at the time to combine the virtual reality system of Choy with the teachings of Yee because as Yee suggests, the virtual interface of the robot, camera in eye socket and microphone in ears, is intended to make the robot more friendly in appearance to a second user, and the microphones in the ears add the benefit of being able to relay to the user a sense of direction of a sound and the cameras in the left and right eye sockets provide the user with information in a three dimensional format similar to how a human would normally view an environment (4:52-5:49).

23. Claims 7, 8, 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Choy in view of Yee and Dundon as applied to claim 6 above, and further in view of Abbasi (US 6786863).

24. In regards to claims 7 and 9, Choy in view of Yee discloses a robot at a first location and a set of goggles at a second location (Choy: 9:65-11:17); a second humanoid robot in the second location having life-like features and rendering acquired video and audio signals received from a communications network into a user headset (Choy: 9:65-11:17). Choy further discloses sending audio and visual signals to the headset of the user (fig 1 and 3:10-4:55). The combination lacks explicitly disclosing sending audio and video signals from a second microphone and camera coupled to a second robot.

25. In related prior art, Abbasi discloses a remote physical encounter system and method comprising a second mechanical surrogate with external sensory devices including a second camera and a second microphone and sending the signals to a

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communications network (fig 1) wherein the communications network comprises an interface having one or more channels for receiving the audio signals from the microphone and receiving the video signals from the camera (fig 1). One skilled in the art would recognize the advantages of including a microphone and camera when two people are interacting remotely.

26. Therefore it would have been obvious to one skilled in the art at the time to combine the system of Choy with the teachings of Abbasi because the use of sight and sound is important for easy communication and as Choy suggests, the combination of touch, audio and visual stimulation is a powerful and effective means of communication (1:19-22).

27. In regards to claim 8, Choy discloses the communications network includes a first communication gateway in the first location and a second communication gateway in the second location (9:65-10:6), the second processor connected to the first processor via a network (7:64-8:38 and 11:1-12).

28. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Choy in view of Yee as applied to claim 18 above, and further in view of Abbasi.

29. Choy in view of Yee discloses a robot at a first location and a set of goggles at a second location (Choy: 9:65-11:17); a second humanoid robot in the second location having life-like features and rendering acquired video and audio signals received from a communications network into a user headset (Choy: 9:65-11:17). Choy further discloses sending audio and visual signals to the headset of the user (fig 1 and 3:10-

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4:55). The combination lacks explicitly disclosing sending audio and video signals from a second microphone and camera coupled to a second robot.

30. In related prior art, Abbasi discloses a remote physical encounter system and method comprising a second mechanical surrogate with external sensory devices including a second camera and a second microphone and sending the signals to a communications network (fig 1) wherein the communications network comprises an interface having one or more channels for receiving the audio signals from the microphone and receiving the video signals from the camera (fig 1). One skilled in the art would recognize the advantages of including a microphone and camera when two people are interacting remotely.

31. Therefore it would have been obvious to one skilled in the art at the time to combine the system of Choy with the teachings of Abbasi because the use of sight and sound is important for easy communication and as Choy suggests, the combination of touch, audio and visual stimulation is a powerful and effective means of communication (1:19-22).

Response to Arguments

32. Applicant's arguments filed 12/05/2007 have been fully considered but they are not persuasive. Applicant argues that the cited references do not disclose a video camera coupled to the mannequin. Examiner respectfully disagrees. As described in the above rejection, Choy describes a mannequin used for inter-personal interactions and Yee discloses a system for the remote presence by a user through camera and microphone inputs on a remote controlled device. When two persons are separated by

some distance and wish to use the system of Choy it would be obvious to use the camera and microphone for remote sensing as taught by Yee and as Choy is directed to replicating humans, it would follow to mount the camera on said mannequin of Choy so that it most closely replicated human interaction.

33. Examiner wishes to point out the Choy, in addition to teaching a doll, distinctly mentions that the doll may be a mannequin (e.g. at least 2:15, 2:18, and 2:24).

34. In regards to applicant's arguments that no combination of Choy or Yee suggests a processor receiving images and overlaying a virtual environment to form a virtual scene, examiner wishes to point out that Choy distinctly describes the system running on a computer with a Pentium processor (8:25) and providing visual overlays (8:53-58) and the combination with Yee teaches sending remote presence information over a network.

35. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

36. Examiner wishes to note that in amended figure 1, mannequin 12a is shown as a female figure while in figures 2A and 2B it is shown as a male figure. Examiner believes applicant may have mislabeled the figures in the amended drawings, as the amended drawings involve gender swapping of users with their respective mannequins.

Conclusion

37. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID W. DUFFY whose telephone number is (571)272-1574. The examiner can normally be reached on M-F 0830-1700.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan M. Thai can be reached on (571) 272-7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. W. D./
Examiner, Art Unit 3714

//Corbett B. Coburn//
Primary Examiner, Art Unit 3714